

BUTTERFLIES OF THE MARSHALL ISLANDS¹

(LEPIDOPTERA)

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The following report is based upon a large collection of butterflies from a number of localities throughout the Marshall Islands. Those who contributed specimens to this collection, with the localities and dates, are:

Lt. Warren H. Wagner, Jr., USNR, Kwajalein Island, Kwajalein Atoll, October 8, 10, 15, 1944; Lt. David F. Grether, USNR, Kwajalein, Berlin (Gugegme) and Loi Islands, Kwajalein Atoll, January 1, 6, 20, 30, May 13, 1945; Capt. Frank N. Young, AUS, Perry Island, Eniwetok Atoll, May 5, 1945; Dr. Henry K. Townes, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Amoen and Engebi Islands, Eniwetok Atoll, May 16, 18, 1946; Kwajalein Island, Kwajalein Atoll, August 17, 1946; Likiep Island, Likiep Atoll, August 30, 1946; and Mogmog Island, Ulithi Atoll (Carolines), July 11, 1946; and Mr. Frederick M. Bayer, U. S. National Museum, Smithsonian Institution, Bikini Island, Bikini Atoll, July 22, 23, 1947.

Three species of butterflies occur on the Marshall Islands. One of these, *Hypolimnys bolina* (Linné), is generally distributed and occurs on every island capable of supporting it. In the Marshall Islands this species reaches its minimum size, and most of the females have more extensive dull orange on the hind wings than those found elsewhere, some being entirely dull orange. But these features are by no means constant, and the Marshall Island population intergrades abundantly with that of the smaller Carolines, which in turn intergrades with that of the larger Carolines. The incompletely differentiated and abundantly intergrading population of the Marshall Islands has been named *jaluia* by Fruhstorfer.

The two other butterflies, *Precis villida bismarkiana* (Hagen) and *Badamia exclamatoris* (Fabricius), are widely distributed over the Pacific islands, but are of local occurrence in the Marshalls where neither shows any tendency toward the development of a local form. Both are active and powerful fliers and are usually very common where they occur. *Badamia exclamatoris* is noted for its migratory flights, and *Precis villida* has been reported apparently in migration in New Zealand.

Mr. Bayer's records are the only ones at hand from Bikini, and the only ones subsequent to the explosion of the atomic

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bombs. He found the butterfly fauna apparently quite normal, with all three species present. Incidentally, Bikini is the only island in the Marshalls from which all three are known.

Danaus plexippus (Linné) has been recorded from the Marshall Islands (Proc. Ent. Soc. Washington, vol. 47, No. 7, p. 213, October 1945), but this is an error; it does not occur in the group.

FAMILY NYMPHALIDAE

Precis villida bismarkiana (Hagen)

Localities.—Bikini Atoll; Bikini Island, near the mess hall; F. M. Bayer, July 23, 1947.

Eniwetok Atoll; Amoan Island; H. K. Townes, May 16, 1946.

Eniwetok Atoll; Eugebi Island; H. K. Townes, May 18, 1946.

Eniwetok Atoll; Perry Islands; F. N. Young, May 5, 1945.

Hypolimnias bolina jaluia Fruhstorfer

Localities.—Bikini Atoll; Bikini Island, near the mess hall; F. M. Bayer, July 22, 1947.

Kwajalein Atoll; Kwajalein Island; W. H. Wagner, Jr., October 8, 10, 15, 1944; D. F. Grether, January 1, 20, 30, 1945 (many larvae as well as adults); H. K. Townes, August 17, 1946.

Kwajalein Atoll; Berlin (Gugegme) Island; D. F. Grether, January 6, 30, May 13, 1945.

Kwajalein Atoll; Loi Island; D. F. Grether, January 1, 1945.

Ulithi Atoll (Caroline Islands); Mogmog Island; H. K. Townes, July 11, 1946.

Notes.—A female from Berlin Island taken on January 30, 1945, is almost wholly white, the white color extending closer to the costal border of the fore wings and closer to the base of the hind wing than in the specimen of the form *palleseens* Butler figured in Seitz (vol. 9, pl. 119). Another female almost as extensively white was taken on Berlin Island on May 13, 1945. Three pale dull orange females were taken on Berlin Island on January 6 and 30, 1945, and on Loi Island on January 1, 1945. All the females from Bikini are of the usual form.

FAMILY HESPERIIDAE

Badamia exclamationis (Fabricius)

Localities.—Bikini Atoll; Bikini Island, near the mess hall; F. M. Bayer, July 23, 1947.

Kwajalein Atoll; Loi Island; D. F. Grether, January 1, 1945.

Likiep Atoll; Likiep Island; H. K. Townes, August 30, 1946.

Note.—On Likiep Island Dr. Townes found the larvae of this species feeding on *Terminalia litoralis* (Combretaceae).